

Amendments to the Claims

1. (Withdrawn) A DNA comprising a structure in which any one of DNA (a), DNA (b), or DNA (c) is placed under the control of a storage protein promoter, wherein

DNA (a) comprises a DNA in which a DNA encoding a storage protein signal sequence is added to the 5'-end of a DNA encoding an allergen-specific T-cell epitope peptide and/or a DNA encoding an ER-retention signal sequence is added to the 3'-end thereof;

DNA (b) comprises a DNA encoding a polypeptide in which a storage protein signal sequence is added to the N-terminal of an allergen-specific T-cell epitope peptide and/or an ER-retention signal sequence is added to the C-terminal thereof; and

DNA (c) comprises a DNA encoding a polypeptide having a structure in which an allergen-specific T-cell epitope peptide is inserted into a variable region of a storage protein.

2. (Withdrawn) A vector for preparing a plant accumulating a T-cell epitope, wherein said vector comprises the DNA according to claim 1.

3. (Withdrawn) A host cell comprising the DNA according to claim 1.

4. (Currently Amended) A method for accumulating high levels of a hybrid peptide ~~an allergen-specific T-cell epitope~~ in an edible part of a plant, wherein said method comprises the step of introducing into said plant a DNA under the control of a storage protein promoter, wherein said DNA comprises a structure selected from the group consisting of:

(a) ~~a DNA in which a DNA encoding a storage protein signal sequence is added to the 5'-end of a DNA encoding an~~ a hybrid peptide comprising seven or more sequentially linked allergen-specific T-cell epitope peptides ~~peptide, said hybrid peptide encoding DNA having (i) a DNA encoding a storage protein signal sequence added to the 5' end thereof, (ii) and/or a DNA encoding an ER-retention signal sequence is added to the 3'-end thereof, or (iii) both (i) and (ii);~~

(b) ~~a DNA encoding a~~ hybrid peptide comprising seven or more sequentially linked polypeptide in which a storage protein signal sequence is added to the N-terminal of an ~~allergen-specific T-cell epitope peptides~~ peptide, said hybrid peptide further comprising (i) a storage protein signal sequence added to the N-terminal thereof, (ii) and/or an ER-retention signal sequence is added to the C-terminal thereof, or (iii) both (i) and (ii); and

(c) a DNA encoding a polypeptide having a structure in which ~~an~~ a hybrid peptide comprising seven or more sequentially linked allergen-specific T-cell epitope peptides ~~peptide~~ is inserted into a variable region of a storage protein.

5. (Currently Amended) A method for accumulating high levels of a hybrid peptide an allergen-specific T-cell epitope in a plant, wherein said method comprises the steps of:

(a) obtaining a DNA encoding ~~an~~ a hybrid peptide comprising seven or more sequentially linked allergen-specific T-cell epitope peptides ~~peptide~~;

(b) ~~adding providing the DNA obtained in (a) with either (i) a DNA encoding a storage protein signal sequence added to the 5'-end thereof of the DNA obtained in (a), and/or (ii) a DNA encoding an ER-retention signal sequence added to the 3'-end thereof, or (iii) both (i) and (ii); and~~

(c) expressing the DNA of (b) under the control of a storage protein promoter in a plant.

6. (Currently Amended) A method for accumulating high levels of a hybrid peptide T-cell epitope in a plant, wherein said method comprises the steps of:

(a) obtaining a DNA encoding ~~an~~ a hybrid peptide comprising seven or more sequentially linked allergen-specific T-cell epitope peptides ~~peptide~~; and

(b) inserting the DNA of (a) into a DNA region encoding a variable region of a plant storage protein to express the DNA.

7. (Previously Presented) The method according to claim 4, wherein said allergen is a Japanese cedar pollen allergen.

8. (Original) The method according to claim 7, wherein said Japanese cedar pollen allergen is Cry j1 and Cry j2.

9.-10. (Canceled)

11. (Withdrawn) A transgenic plant produced by the method according to claim 4, wherein said plant comprises a T-cell epitope accumulated therein.

12. (Withdrawn) A transgenic plant which is a progeny or a clone of the plant according to claim 11.

13. (Withdrawn) A cell derived from the plant according to claim 11.

14. (Withdrawn) A breeding material of the plant according to claim 11.

15. (Withdrawn) A seed of the plant according to claim 11.

16. (Withdrawn) The seed according to claim 15, wherein said seed is thermostable.

17. (Withdrawn) The transgenic plant according to claim 11, wherein said plant comprises rice having a T-cell epitope accumulated therein.

18. (Withdrawn) A food composition for treating or preventing an allergic disease, wherein said food composition comprises the seed according to claim 15 as an effective ingredient.

19. (Withdrawn) The food composition according to claim 18, wherein said allergic disease is a type I allergy.

20. (Canceled)

21. (Currently Amended) A method of producing a rice plant having high levels of a hybrid peptide ~~an allergen-specific T-cell epitope~~ accumulated in an edible part thereof using the method according to claim 4, wherein said plant into which said DNA under the control of a storage protein promoter is introduced ~~comprises~~ is a rice plant.

22. (Withdrawn) A rice comprising an allergen-specific T-cell epitope accumulated in albumen, wherein said rice comprises the DNA according to claim 1.

23. (Withdrawn) A food/drink product comprising the rice according to claim 22, wherein said product has an activity associated with the prevention, treatment, or alleviation of an allergic disease.

24. (Withdrawn) The rice according to claim 22, wherein said allergen is a pollen allergen.

25. (Withdrawn) A food/drink product comprising the rice according to claim 24, wherein said product has an activity associated with the prevention, treatment, or alleviation of pollinosis.

26. (Previously Presented) The method according to claim 5, wherein said allergen is a Japanese cedar pollen allergen.

27. (Previously Presented) The method according to claim 6, wherein said allergen is a Japanese cedar pollen allergen.

28. (Previously Presented) The method according to claim 26, wherein said Japanese cedar pollen allergen is Cry j1 and Cry j2.

29. (Previously Presented) The method according to claim 27, wherein said Japanese cedar pollen allergen is Cry j1 and Cry j2.

30.-33. (Canceled)

34. (Withdrawn) A cell derived from the plant according to claim 12.

35. (Withdrawn) A breeding material of the plant according to claim 12.

36. (Withdrawn) A seed of the plant according to claim 12.

37. (Withdrawn) The seed according to claim 36, wherein said seed is thermostable.

38. (Withdrawn) A food composition for treating or preventing an allergic disease, wherein said food composition comprises the seed according to claim 16 as an effective ingredient.

39. (Withdrawn) A food composition for treating or preventing an allergic disease, wherein said food composition comprises the rice according to claim 22 as an effective ingredient.

40. (Withdrawn) A host cell comprising the vector according to claim 2.

41. (Currently Amended) A method for accumulating high levels of a hybrid peptide an allergen-specific T-cell epitope in an edible part of a plant, wherein said method comprises the step of introducing a vector comprising a DNA under the control of a storage protein promoter, wherein said DNA is selected from the group consisting of:

(a) ~~a DNA in which a DNA encoding a storage protein signal sequence is added to the 5'-end of a DNA encoding an a hybrid peptide comprising seven or more sequentially linked allergen-specific T-cell epitope peptides peptide, said hybrid peptide encoding DNA having (i) a DNA encoding a storage protein signal sequence added to the 5' end thereof, (ii) and/or a DNA encoding an ER-retention signal sequence is added to the 3'-end thereof, or (iii) both (i) and (ii);~~

(b) ~~a DNA encoding a hybrid peptide comprising seven or more sequentially linked polypeptide in which a storage protein signal sequence is added to the N-terminal of an allergen-specific T-cell epitope peptides peptide, said hybrid peptide further comprising (i) a storage protein signal sequence added to the N-terminal thereof, (ii) and/or an ER-retention signal sequence is added to the C-terminal thereof, or (iii) both (i) and (ii); and~~

(c) ~~a DNA encoding a polypeptide having a structure in which an a hybrid peptide comprising seven or more sequentially linked allergen-specific T-cell epitope peptides peptide is inserted into a variable region of a storage protein.~~

42. (Withdrawn) A transgenic plant produced by the method according to claim 5, wherein said plant comprises a T-cell epitope accumulated therein.

43. (Withdrawn) A transgenic plant produced by the method according to claim 6, wherein said plant comprises a T-cell epitope accumulated therein.

44.-45. (Canceled)

46. (Withdrawn) A pharmaceutical composition for treating or preventing an allergic disease, wherein said pharmaceutical composition comprises the seed according to claim 15 as an effective ingredient.

47. (Withdrawn) A pharmaceutical composition for treating or preventing an allergic disease, wherein said pharmaceutical composition comprises the seed according to claim 16 as an effective ingredient.

48. (Withdrawn) A pharmaceutical composition for treating or preventing an allergic disease, wherein said pharmaceutical composition comprises the rice according to claim 22 as an effective ingredient.